EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2012-0260R1 **Date: 05 July 2013** Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.

This AD is issued in accordance with EU 748/2012, Part 21.A.3B. In accordance with EC 2042/2003 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [EC 2042/2003 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].

Design Approval Holder's Name :	**Type/Model designation(s) :**
ROLLS-ROYCE plc	RB211 Trent 900 engines

TCDS Number :	EASA.E.012
Foreign AD :	Not applicable
Revision:	This AD revises EASA AD 2012-0260 dated 11 December 2012.

ATA 79	**Engine Oil System – Fuel-to-Oil Heat Exchanger – Replacement [Time Between Overhaul]**
Manufacturer(s):	Rolls-Royce plc
Applicability:	RB211 Trent 970-84, 970B-84, 972-84, 972B-84, 977-84, 977B-84 and 980-84 engines, all serial numbers. These engines are known to be installed on, but not limited to, Airbus A380 aeroplanes.
Reason:	During a revenue service flight, a Trent 900 engine experienced increased N2 intermediate pressure (IP) vibrations, followed by an engine surge. The pilot shut down the engine, the aeroplane carried out an air turn-back, and a 3-engine landing was successfully performed. Subsequent investigation results revealed the presence of oil by-pass seal material from the Fuel-to-Oil Heat Exchanger (FOHE) in the restrictor hole of the Tail Bearing Housing (TBH) cover plate. The blocked restrictor hole caused oil starvation to the low pressure (LP) and IP location bearings. This condition, if not detected and corrected, could lead to LP location bearing damage, possibly resulting in uncontained engine failure and consequent damage to the aeroplane. To correct this potential unsafe condition, EASA issued AD 2012-0260 to require implementation of a time between overhaul (TBO), i.e. repetitive replacement of the affected FOHE with a new or overhauled FOHE unit. Since that AD was issued, Rolls-Royce introduced a modified FOHE through Modification 79-H282. The improvements applied to this new FOHE reduce the risk of deterioration of the oil by-pass seal, and remove the need of the

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<tr><td></td><td>mandatory TBO.

Consequently, this AD is revised to confirm that the mandatory TBO does not apply to engines incorporating Modification 79-H282, and in-service modification of an engine in accordance with Rolls-Royce Service Bulletin (SB) 79-H282 is an optional terminating action for the repetitive FOHE replacements required by this AD.</td></tr>
<tr><td>Effective Date:</td><td>Revision 1: 12 July 2013

Original issue: 25 December 2012</td></tr>
<tr><td>Required Action(s) and Compliance Time(s):</td><td>Required as indicated, unless accomplished previously:

(1) For engines having a FOHE Part Number (P/N) 47111-1241 installed: Within the compliance time as indicated in Table 1 of this AD, as applicable, and, thereafter, at intervals not to exceed 5 000 engine hours (EH), replace the FOHE with a new or overhauled unit in accordance with the instructions of Rolls-Royce Non-Modification Service Bulletin (NMSB) RB.211-79-AH031.

Table 1 – Initial FOHE Replacement
<table><tr><td>Engine condition, on the effective date of this AD:</td><td>Compliance Time:</td></tr><tr><td>On-wing</td><td>Before exceeding 5 000 EH time since new (TSN) or time since overhaul (TSO), or within 500 EH after 25 December 2012 [the effective date of the original issue of this AD], whichever occurs later</td></tr><tr><td>In-shop</td><td>Before release to service of the engine, if the FOHE has reached or exceeded 5 000 EH TSN or TSO</td></tr></table>
(2) From 25 December 2012 [the effective date of the original issue of this AD], do not install a FOHE P/N 47111-1241 on an engine, or an engine with a P/N 47111-1241 FOHE installed on an aeroplane, unless that FOHE has accumulated less than 5 000 EH TSN or TSO.

(3) Actions, accomplished prior to the effective date of this AD in accordance with the instructions of Rolls-Royce NMSB RB.211-79-AH031 at original issue, are acceptable to comply with the initial requirements of paragraph (1) of this AD.

(4) Modification of an engine in accordance with the instructions of Rolls-Royce Service Bulletin (SB) RB.211-79-H282 constitutes terminating action for the repetitive FOHE replacements required by this AD for that engine.

(5) After modification of an engine as specified in paragraph (4) of this AD, installation of a P/N 47111-1241 FOHE is allowed, provided that, following installation, the requirements of this AD are applied to that FOHE.</td></tr>
<tr><td>Ref. Publications:</td><td>Rolls-Royce Alert NMSB RB.211-79-AH031 dated 25 October 2012, or Revision 1 dated 01 July 2013.

Rolls-Royce SB RB.211-79-H282 dated 28 March 2013.

The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.</td></tr>
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Remarks :	1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD. 2. The original issue of this AD was posted on 07 November 2012 as PAD 12-140 for consultation until 05 December 2012. The Comment Response Document can be found at http://ad.easa.europa.eu. 3. Enquiries regarding this AD should be referred to the Safety Information Section, Executive Directorate, EASA. E-mail ADs@easa.europa.eu. 4. For any question concerning the technical content of the requirements in this AD, please contact your designated Rolls-Royce representative, or download the publication from your Aeromanager account at www.aeromanager.com. If you do not have a designated representative or Aeromanager account, please contact **Corporate Communications** at **Rolls-Royce plc**, P.O. Box 31, Derby, DE24 8BJ, The United Kingdom. Telephone: +44 (0) 1332 242424, or send an e-mail from http://www.rolls-royce.com/contact/civil_team.jsp identifying the correspondence as being related to **Airworthiness Directives**.